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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,899	09/30/2003	Sung-Tae Joo	CU-3335 VE	6140

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EXAMINER

GUIDOTTI, LAURA COLE

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,899

Applicant(s)

JOO, SUNG-TAE

Examiner

Laura C. Guidotti

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0904, 0405, 1005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 6-7 and 15 are objected to because of the following informalities:

Claim 6 Line 2 and Claim 15 Line 2 each require "a second retainer", however a first retainer has not been claimed previously in claims 6 and 15 or within the claims 1 and 4, and 9 from which claims 6 and 15 depend, respectively . How is this retainer a second retainer?

Claim 7 recites the limitation "the connection" in Line 3. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kramer et al., US 5,351,362.

Kramer et al. disclose the claimed invention including a brush body including an upper casing (2) and a lower casing (1), the lower casing having sidewalls (unlabeled, see Figures) and a suction slot (unlabeled, where 5 is located within, shown in Figure 3) through which air is drawn in (Column 2 Lines 2-5), an agitator unit rotatably supported at the lower casing (5) and having bristles (as shown in Figure 3) at predetermined

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intervals (Figure 3), a turbine unit rotatably supported adjacent the lower casing (3; Column 5 Lines 28-30) and being rotated by the air drawn into the vacuum cleaner by suction (Column 2 Lines 2-5), and a power transfer unit connecting the agitator unit and the turbine unit (4; Column 5 Lines 28-31) so as to rotate the agitator unit in association with the turbine unit (Column 5 Lines 25-31), wherein the suction slot of the lower casing has a plurality of ribs (unlabeled, shown in Figure 3) capable of preventing the surface being cleaned from being drawn into the brush body and bristles (unlabeled, present on the brush roller 5) are positioned at the predetermined intervals between the ribs of the suction slot (as shown in Figure 3) so that at least part of the bristles passes through the suction slot and comes into contact with a surface to be cleaned (see Figure 1 where portions of the bristles extend through the slot to contact a surface), whereby the ribs are capable of inhibiting any loose material of the surface being cleaned from being drawn into the turbine brush. Regarding claim 18, the material of the surface to be cleaned is capable of being a blanket or other fabric.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 6-8, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worwag, US 2001/0008036 in view of MacFarland, US 2,668,979.

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Worwag discloses the claimed invention including a brush body including an upper casing (upper portion of 2, only shown in Figure 1) and a lower casing (lower portion of 2 and 4, Figure 2), the lower casing having sidewalls (5) and a suction slot (20) through which air is drawn in (paragraph 32), an agitator unit rotatably supported at the lower casing (10; paragraph 32) and having bristles (11) at predetermined intervals (Figure 2), a turbine unit rotatably supported adjacent the lower casing (12; Figure 2; paragraph 31) and being rotated by the air drawn into the vacuum cleaner by suction (paragraph 32), and a power transfer unit connecting the agitator unit and the turbine unit (includes 15, 16, paragraph 31) so as to rotate the agitator unit in association with the turbine unit (paragraph 31). Regarding claim 4, the agitator unit further comprises an agitator (10) and a connecting member fixed at each of the sidewalls of the lower casing to support the agitator (8, paragraph 32). Regarding claim 6, the turbine unit comprises a turbine (12), a turbine shaft (14), and a second retainer to support the turbine shaft (where an end is retained, Figure 2). Regarding claim 7, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (15, Figure 2), a second pulley disposed around a rotating agitator shaft of the agitator unit (unlabeled, see rightmost end of 10 in Figure 2), and a connection includes a belt connecting the first pulley and the second pulley (16; Figure 2). Regarding claim 18, the material of the surface to be cleaned is capable of being a blanket or other fabric (paragraph 5). Worwag does not include that the suction slot (20) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot.

MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into the turbine brush (Column 3 Lines 12-17). Regarding claim 8, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Worwag to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush.

4. Claims 1, 4-8, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224 in view of MacFarland, US 2,668,979.

Magarian discloses the claimed invention including a brush body including an upper casing (50) and a lower casing (52), the lower casing having sidewalls (unlabeled, see Figures) and a suction slot through which air is drawn in (58), an agitator unit rotatably supported at the lower casing (60) and having bristles (64) at predetermined intervals (Figure 3), a turbine unit rotatably supported adjacent the lower

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casing (76) and being rotated by the air drawn into the vacuum cleaner by suction (Column 3 Lines 54-62), and a power transfer unit connecting the agitator unit and the turbine unit (includes 84, 82, 86;) so as to rotate the agitator unit in association with the turbine unit (Column 3 Lines 5-15). Regarding claim 4, the agitator unit further comprises an agitator (60) and a connecting member fixed at each of the sidewalls of the lower casing to support the agitator (202, Figure 9). Regarding claim 5, the connecting member comprises a bearing (202) to support a rotating shaft of the agitator and a first retainer surrounding the bearing (210; Figure 9), and at each of the sidewalls of the lower casing is formed a guide wall to removably support the first retainer (203; Column 5 Lines 64-68). Regarding claim 6, the turbine unit comprises a turbine (76), a turbine shaft (782 or 78, appears to be mislabeled in the description or drawings, Column 2 Line 72 to Column 3 Line 2), and a second retainer to support the turbine shaft (where an end is retained, Figure 8). Regarding claim 7, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (82, Figure 6), a second pulley disposed around a rotating agitator shaft of the agitator unit (84, Figure 6), and a connection includes a belt connecting the first pulley and the second pulley (86, Figure 6). Regarding claim 18, the material of the surface to be cleaned is capable of being a blanket or other fabric (paragraph 5). Magarian does not include that the suction slot (58) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot.

MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent

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the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into the turbine brush (Column 3 Lines 12-17). Regarding claim 8, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224 and MacFarland, US 2,668,979 as applied to claim 1, in view of Blase, US 5,455,984.

Magarian and MacFarland disclose all elements above, however do not disclose that the upper casing is transparent.

Blase teaches the use of using a transparent casing portion (168) so that a user can observe dirty water that is being removed with a vacuum cleaning/water extraction machine (Column 6 Lines 20-23).

It would have been obvious for one of ordinary skill in the art to modify the upper casing of Magarian and MacFarland to be transparent, as Blase teaches, so that a user while cleaning can observe debris that is being removed from the surface that is being cleaned.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224 and MacFarland, US 2,668,979 as applied to claim 1, in view of Allgeier et al., US 6,513,190.

Magarian and MacFarland disclose all elements above, however do not disclose that the upper and lower casings comprise at least a first tab formed at a front portion of the upper casing and a second tab formed at a rear portion of the upper casing and a slot corresponding to the first tab formed at a front portion of the lower casing and a locking member corresponding to the second tab formed at a rear portion of the lower casing. It is noted that Magarian has the upper and lower casings that include one continuous tab and slot so that the casing is attached entirely (at 54, see Figures 1, 2, and 6).

Allgeier et al. teaches a turbine brush that is very similar to one of Magarian and further includes an upper casing (2) and a lower casing (4) wherein there are first tabs formed at a front portion of the lower casing (170, 172, 174, 176) and corresponding slots that correspond to the first tabs (178, 180, 182, and 184) and a second tab formed at a rear portion of the lower casing (164, 166; Column 4 Lines 35-36) and a locking member corresponding to the second tab formed at the rear portion of the upper casing (190, 192; Column 4 Lines 36-38, see Figures 3-5, 8, 9, and 9A particularly) in order to

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assemble and latch the turbine brush (Column 4 Lines 26-41). It is noted that in Allgeier et al., the tabs, slots, and locking portion are on the opposite of the upper and lower casings.

It would have been obvious for one of ordinary skill in the art to modify the attachment configuration of Magarian and MacFarland to further include the first tab, the slot corresponding to the first tab, a second tab, and a locking member, as Allgeier et al. teach, in order to assemble and latch upper and lower casings of a turbine brush and further it would have been obvious to configure the first tab, slot, second tab, and locking member of Magarian, MacFarland, and Allgeier et al. so that the first tab is formed at a front portion of the *upper* casing and a second tab is formed at a rear portion of the *upper* casing and a slot corresponding to the first tab is formed at a front portion of the *lower* casing and a locking member corresponding to the second tab is formed at a rear portion of the *lower* casing as it is an obvious reversal of component locations and one of ordinary skill in the art would recognize that these components, when reversed, would be expected and capable of performing equally as well. (See MPEP 2144.04 VI A).

7. Claims 9, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224 in view of MacFarland, US 2,668,979 and Blase, US 5,455,984.

Regarding claim 9, Magarian includes all elements mentioned above and further includes a discharging pipe (140) connected to a rear portion of the brush body (Figure 2). Regarding claim 13, the agitator unit further comprises an agitator (60) and a

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connecting member fixed at each of the sidewalls of the lower casing to support the agitator (202, Figure 9). Regarding claim 14, the connecting member comprises a bearing (202) to support a rotating shaft of the agitator and a first retainer surrounding the bearing (210; Figure 9), and at each of the sidewalls of the lower casing is formed a guide wall to removably support the first retainer (203; Column 5 Lines 64-68).

Regarding claim 15, the turbine unit comprises a turbine (76), a turbine shaft (782 or 78, appears to be mislabeled in the description or drawings, Column 2 Line 72 to Column 3 Line 2), and a second retainer to support the turbine shaft (where an end is retained, Figure 8). Regarding claim 16, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (82, Figure 6), a second pulley disposed around a rotating agitator shaft of the agitator unit (84, Figure 6), and a connection includes a belt connecting the first pulley and the second pulley (86, Figure 6).

Regarding claim 19, the material of the surface to be cleaned is capable of being a blanket or other fabric (paragraph 5). Magarian does not include that the suction slot (58) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot and also Magarian does not include that the upper casing is made from a transparent material.

MacFarland discloses all elements above, in particular MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the

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suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into the turbine brush (Column 3 Lines 12-17). Regarding claim 17, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

Blase teaches the use of using a transparent casing portion (168) so that a user can observe dirty water that is being removed with a vacuum cleaning/water extraction machine (Column 6 Lines 20-23).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush and also it would have been obvious for one of ordinary skill in the art to modify the upper casing of Magarian to be transparent, as Blase teaches, so that a user while cleaning can observe debris that is being removed from the surface that is being cleaned.

8. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, MacFarland, US 2,668,979, and Blase, US 5,455,984 as applied to claim 9, in view of JP 04-272734 (see also English translation of Abstract).

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Magarian, MacFarland, and Blase disclose all elements mentioned previously above, however do not disclose a locking unit to connect the discharging pipe with an extended tube of the vacuum cleaner.

JP 04-272734 teaches a locking unit (see English translation of Abstract and Figures) that connects a discharging pipe (portion including 21, Figure 1) with an extended pipe of a vacuum cleaner (portion including 25, Figure 1; English translation of Abstract), wherein the locking unit comprises a hooking member (34) and a pressing button (portion labeled as "32" in Figure 1) in order to provide structure that is small in size, low in cost, and high in strength (see "Purpose" paragraph in the English translation of Abstract).

It would have been obvious for one of ordinary skill in the art to modify the discharging pipe of Magarian, MacFarland, and Blase in order to provide a locking unit to connect the discharging pipe with an extended tube from a vacuum cleaner, as JP 04-272734 teaches, in order to provide a locking connection that is small in size, low in cost, and high in strength.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, MacFarland, US 2,668,979, and Blase, US 5,455,984 as applied to claim 9, in view of Allgeier et al., US 6,513,190.

Magarian, MacFarland, and Blase disclose all elements above, however do not disclose that the upper and lower casings comprise at least a first tab formed at a front portion of the upper casing and a second tab formed at a rear portion of the upper casing and a slot corresponding to the first tab formed at a front portion of the lower

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casing and a locking member corresponding to the second tab formed at a rear portion of the lower casing. It is noted that Magarian has the upper and lower casings that include one continuous tab and slot so that the casing is attached entirely (at 54, see Figures 1, 2, and 6).

Allgeier et al. teaches a turbine brush that is very similar to one of Magarian and further includes an upper casing (2) and a lower casing (4) wherein there are first tabs formed at a front portion of the lower casing (170, 172, 174, 176) and corresponding slots that correspond to the first tabs (178, 180, 182, and 184) and a second tab formed at a rear portion of the lower casing (164, 166; Column 4 Lines 35-36) and a locking member corresponding to the second tab formed at the rear portion of the upper casing (190, 192; Column 4 Lines 36-38, see Figures 3-5, 8, 9, and 9A particularly) in order to assemble and latch the turbine brush (Column 4 Lines 26-41). It is noted that in Allgeier et al., the tabs, slots, and locking portion are on the opposite of the upper and lower casings.

It would have been obvious for one of ordinary skill in the art to modify the attachment configuration of Magarian, MacFarland, and Blase to further include the first tab, the slot corresponding to the first tab, a second tab, and a locking member, as Allgeier et al. teach, in order to assemble and latch upper and lower casings of a turbine brush and further it would have been obvious to configure the first tab, slot, second tab, and locking member of Magarian, MacFarland, Blase, and Allgeier et al. so that the first tab is formed at a front portion of the *upper* casing and a second tab is formed at a rear portion of the *upper* casing and a slot corresponding to the first tab is formed at a front

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portion of the *lower* casing and a locking member corresponding to the second tab is formed at a rear portion of the *lower* casing as it is an obvious reversal of component locations and one of ordinary skill in the art would recognize that these components, when reversed, would be expected and capable of performing equally as well. (See MPEP 2144.04 VI A).

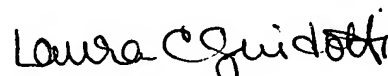
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura C Guidotti
Patent Examiner
Art Unit 1744

lcg